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ABSTRACT

This general user guide to the Educational Information System for Ontario (EISO) deals with the simple logistics of acquiring material from the system. Since EISO was developed as a way for Ontario citizens to use the Educational Resources Information Center (ERIC) data base in the United States, a preliminary description of ERIC is provided. Questions answered by the guide include who uses EISO, how to ask a computer question, who/what is a search analyst, how to make a search request, what kind of answer will be given, how long it takes, and how much it costs. A brief explanation of the way the computer links information using Boolean operators (AND, OR, NOT) is also provided, as well as a sample request form and computer printout, information for ordering microfiche, and a glossary of terms. (JD)

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Educational Information System for Ontario

EISO

EISO Search Analyst
OISE Library, S218
252 Bloor Street West
Toronto, Ontario M5S 1V6
(416) 923-6641 Ext. 487

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

D.A. Penny

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

IR006991

A GUIDE FOR USING THE EDUCATIONAL INFORMATION SYSTEM FOR ONTARIO

Every Day In Every Way

Information comes in all shapes and forms, some desirable and some undesirable. An alarm clock wakes us and a police siren stops us. Colors also give us information. Red is said to send bulls on a rampage, but it brings traffic to a halt. Numbers inform us as well, depending whether they're in the red or the black.

If we lived on a deserted island we would probably miss the varieties of information we're accustomed to. Though with the difficulty most of us have keeping up with the information that comes at us from all directions, the prospect of a deserted island has its own appeal. Nonetheless, most of us depend on information to make sense of our work as well as our private lives. And part of our skill as persons and professionals is learning to get the right information from the right places at the right times.

A doctor, for instance, knows how to identify and measure your vital signs in order to diagnose a malady. The ability to diagnose and to treat requires a good deal of information. The effective doctor considers the obvious signs of illness: appearance? appetite? elimination? body temperature? reflexes? Internal information is obtained by testing blood, urine or taking x-rays. If the elementary questions don't produce enough information, or it's contradictory, the search goes on for more specific answers. All this is done to search out the kind of information by which a diagnosis can be made. When the answers are available to the right questions, the doctor uses the information to plan a course of treatment that corrects or controls the malady.

Educators, Like Doctors

Effective educators, like doctors, ask for information in order to find out and — hopefully — apply appropriate solutions. As an educator, your question may be as straight-forward as how many ways there are to teach new math, to more complicated questions about programs for parents of emotionally disturbed preschoolers.

For answers to questions like these, you should know ERIC.

ERIC Isn't a Doctor

ERIC stands for Educational Resources Information Center. It's a library of computerized information dealing with all aspects of education.

Now if this is old-hat to you, and all you want to know is how to get information from ERIC, skip over to page 9 for directions. If ERIC is new to you, don't skip, but continue reading.

So ERIC (the Educational Resources Information Center) is a computerized library. It includes over 200,000 reports and articles on education. Among that information, material on these broad areas is available.

Career Education
Urban Education
Early Childhood Education
Education Management
Handicapped & Gifted Children
Higher Education
Information Resources
Junior Colleges
Languages & Linguistics
Reading & Communication Skills
Rural Education & Small Schools
Science, Mathematics & Environmental Education
Social Studies/Social Science Education
Teacher Education
Tests, Measurement & Evaluation

Over 2,500 new items are added each month to keep ERIC up to date. These additions are published monthly

in *Resources in Education* (1966 on) and in *Current Index to Journals in Education* (1969 on).

ERIC is operated by the National Institute of Education in the United States. But ERIC isn't entirely American. Its computers also include Canadian educational literature and information from abroad.

ERIC & EISO Go Together

Along with ERIC is EISO. EISO stands for Educational Information System for Ontario. EISO, pronounced eye-so by its friends, makes it possible for you in Ontario to use this huge ERIC library. EISO was begun in 1975 by the Ontario Ministry of Education as a service and research project. The computer terminal is in Toronto in the library of The Ontario Institute for Studies in Education.

Who Uses EISO?

EISO, or Educational Information System for Ontario, has been used by teachers, principals, students, superintendents, librarians, Educational Information Consultants and civil servants. They've used it to obtain information for reports, for theses, for public addresses and for planning and decision making.

You can use it too.

If you're still not sure EISO can get the answers to your questions — or more likely — you don't know how to ask questions of a computer, read on.

How Do You Ask A Computer Questions?

So you think EISO can provide the kind of help you could use. But how do you send questions to a computer?

There's a special librarian at EISO to help you get the information you need. Because the library is computerized, that person is called a Search Analyst. But don't let that scare you. You can write or phone or drop in to see the Search Analyst at EISO for assistance even if this is the first time you've used the service. There are also Educational Information Consultants in parts of Ontario who know how the service works and are happy to help you. But if you're on your own, this is your best guide to EISO.

You're probably familiar with the way card files in the library help you find printed material. You know about looking up information by author, title, and subject. The equivalent of the card file for using ERIC is a special dictionary called the *Thesaurus of ERIC Descriptors*. Now if pronouncing Thesaurus makes you lisp, call it the Book of ERIC Descriptors. It lists key words related to all the educational literature found in ERIC. The descriptors are in alphabetical order, and each descriptor is followed by a cluster of other terms to help you see if the computer's interpretation of the word matches your own. The clusters include Broader Terms (BT), Narrower Terms (NT), Related Terms (RT) and what the main word is used for (UF). The date the term was first added to ERIC is also indicated. Here are two examples:

REMEDIAL READING Jul. 1966
NT Corrective Reading
BT Reading
Remedial Courses
RT Reading Centers
Remedial Instruction
Remedial Reading Clinics
Remedial Reading Programs
Retarded Readers

TEACHER AIDES Jul. 1966
UF Teacher Assistants
NT Bilingual Teacher Aides
BT Paraprofessional School Personnel
RT Differentiated Staffs
Programed Tutoring
School Aides
Science Teachers
Teachers
Volunteers

There are other sections in the Thesaurus to help you pick out appropriate descriptors. The Rotated Descriptor Display splits multi-word descriptors such as Student-Teacher Ratio into single words and arranges them alphabetically.

The Search Analyst at EISO uses the *Thesaurus of ERIC Descriptors*. EISO's Educational Information Consultants have them too. You can ask the EISO Search Analyst where you can purchase one for your professional library.

EISO Search Analyst
OISE Library, Room S 218
252 Bloor Street West
Toronto, Ontario M5S 1V6
(416) 923-6641 ext. 487

Impertinent questions get impertinent answers. That's why it's important to write down your question and related personal or geographical names, test names, special terms, sponsoring bodies and any other details that can be used by the computer.

Then get in touch with the Search Analyst. Together, you can put your question in a form ERIC will understand.

A Search Warrant

Having thought about your question, and having chosen some key words, you're ready to request a search. The Request Forms are similar to the following sample. You may obtain them from the EISO office, from the Educational Information Consultants, or this sample may be copied. Even a letter will do.

The Search Analyst

The title, Search Analyst, refers to the person who conducts the actual search on the computer terminal, and isn't to be confused with the noted doctor from Vienna. Adept search analysts are worth their weight in silver, and the one at EISO is of the sterling kind.

Ideally, you'd sit down with her to discuss your question and be present as the computer responds. The next best thing is for you and the Search Analyst to have a phone conversation before the search begins, especially if this is the first time you've used the service. This can be important because putting your question to the computer is a skill of its own and the Search Analyst performs a sort of bilingual feat enabling you and the computer to communicate. If she has a clear understanding of the kind of information you do need, and of what you do not need, and of how you plan to use it, then she

EISO SEARCH REQUEST FORM

EDUCATIONAL INFORMATION SYSTEM FOR ONTARIO

1) Name: _____
Address: _____
_____
_____
_____
_____
Phone: (____) _____

2) Invoice (if payment is not enclosed):
_____
_____
_____
_____
_____

3) Search Topic: Grade level(s) — _____ Year(s) to be searched — _____
Detailed description of topic — _____
_____
_____
_____
_____

4) Reasons for requesting search (Please be specific, giving examples of how you hope to use the information) — _____
_____
_____
_____
_____
_____

5) Citations for relevant materials known to you, if any — _____
_____
_____
_____

Please mail completed search application to

EISO Search Analyst
OISE Library, Room S 218
252 Bloor Street West
Toronto, Ontario M5S 1V6

can use her ingenuity, on your behalf, to get exactly what you want.

What Kind Of Answer Will I Get?

The answer will be in the form of a list of journal articles and documents with their abstracts. To a question you could get a list of 115 references which could well be 100 more than you want. That's why the computer responds at first only with the number of references. When the number of references looks manageable, the computer is then asked for actual titles and details.

How Long Does It Take?

If you've given some thought to your question before you contact the Search Analyst, the actual search on the computer will probably take less than 15 minutes. The computer gives its answers back on what's called a printout. The printout will be sent to you as quickly as the mails allow. You should allow a week.

How Much Does It Cost?

The cost of a search, in the $30-$40 range, pays for your conversation with the Search Analyst, the actual computer time and the final bibliography. This rate may change, so confirm it with the Search Analyst. If you asked three distinct questions, that would constitute three separate searches and you would be charged accordingly. You may be invoiced.

Again, What's Your Question?

It's easy to restrict your question in certain ways so you don't get swamped with a bibliography as long as your arm.

Let's say you want EISO to obtain for you information on The Use of Teacher Aides in Remedial Reading. *Teacher aides* is an obvious descriptor. That's typed into the terminal by the Search Analyst and the computer responds with the number of references to that. Say there are 851 references to it. Then you choose *remedial reading programs* as a descriptor and that's given to the computer. The reply comes back that there are 509 references. You can tell immediately that, for your purposes, both these lists are too long. And besides, you want them connected. By asking the computer to link *teacher aides* AND *remedial reading programs*, the computer would indicate there are 11 references to the combined topic. You could then request the eleven references with their abstracts.

The kind of reasoning you've just performed is called Boolean logic. We use it every day, but we rarely give it such a fancy label. The 'mind' of the computer works by Boolean logic, and it means the computer is able to link information in three ways:

1) AND
2) OR
3) NOT

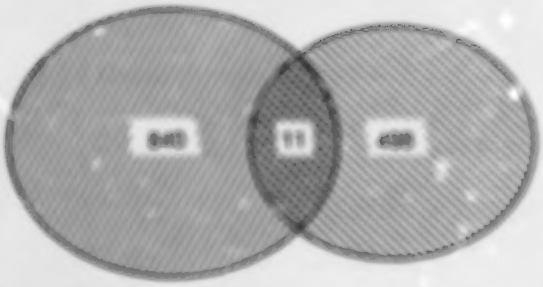
Reconsider your hypothetical question about The Use of Teacher Aides in Remedial Reading. First you asked for all the references to teacher aides. There were 851 of them. Then you asked for references to remedial reading programs and were told there were 509 of them. Because it was important that you get the relation of teacher aides to remedial reading programs, the Boolean link AND was added. You were told there were 11 references to the combined topics.

But suppose you had hoped for more than 11 references. Then the Boolean link OR can be used to make the list longer by adding a qualifying descriptor such as *paraprofessional school personnel* in order to include relevant references not indexed under *teacher aides*.

Or supposing your interest is only in the elementary school level, the computer can be asked to exclude all references to secondary schools. The Boolean link NOT can be used to exclude irrelevant references.

This ability of the computer to link and exclude information, at the press of a button, surpasses the versatility and alacrity of the most dazzling librarian you're ever likely to meet.

Here's a graphic explanation of the Boolean way of linking information:



Teacher Aides
n = 851

Remedial Reading
n = 509

Teacher Aides AND Remedial Reading
n = 11

Notice the 851 references to teacher aides include 11 references that also deal with remedial reading, and 840 that do not. Conversely, the 509 citations for remedial reading include the same 11 references that have both terms as descriptors, and 498 that are indexed only under the one term, remedial reading.

The Computer's Reply

The computer's search for material to your question takes only a few minutes. The replies come first in the number of references. When you — or the Search Analyst on your behalf — are satisfied that the number of references looks manageable, the computer is asked to give titles. Those references with their abstracts form a bibliography printed out by the computer. The printout plus an explanation is mailed to you. A partial printout is shown on the next page.

So I Have A Bibliography

So you have a bibliography printed out by the computer. You still need to get hold of the actual articles and documents you want from among that list. The titles you choose may be articles from educational journals, monographs or papers read at conferences. The printout indicates which form the material is in. If the title is preceded by EJ and a number, for instance EJ 090 471, you know it's a journal article. If the title begins with ED and a number, that signifies a report or document. The ED is derived from educational document whereas EJ refers to educational journal. But an explanation accompanying your printout will explain all that to you. Your nearest university or public library may have the material you want. If not, it may be ordered in the following formats:

1) microfiche of documents
2) photo copies of journal articles
3) paperscopies of documents made from microfiche

Before ordering, ask yourself these questions:

1) Do I have access to a microfiche reader?
2) How quickly do I need the material?
3) How do I plan to use it?
4) How much does it cost?

The Use of Teacher Aides in Remedial Reading

Partial Printout

Journal Reference

ERIC ACCESSION NUMBER	[illegible]
CLEARINGHOUSE ACC. NO.	[illegible]
AUTHOR	[illegible]
TITLE	[illegible]
PUBLICATION DATE	[illegible]
SOURCE	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]

Document Reference

ERIC ACCESSION NUMBER	[illegible]
CLEARINGHOUSE ACC. NO.	[illegible]
TITLE	[illegible]
PUBLICATION DATE	[illegible]
ISSUE	[illegible]
INSTITUTIONAL NAME	[illegible]
CONT. PRICE	[illegible]
DESCRIPTIVE NOTE	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
DESCRIPTORS	[illegible]
ABSTRACT	[illegible]

Ordering Microfiche

The word microfiche is pronounced 'micro-fesh'. In case you've never used a microfiche, it's a cellulose card about 4 by 6 inches in size on which a great deal of printed copy appears in miniature. When placed in a machine called a microfiche reader, the condensed copy is enlarged on a screen for easy reading. An average report can be condensed on 1 to 3 of these cards since one card includes up to 96 pages of text. Ordering microfiche, of course, assumes you have access to a microfiche reader. Your library may have one. Each microfiche from ERIC costs $6. Based on the information in your printout, order microfiche from:

ERIC Search Service
OISE Library, Room 2.218
252 Bloor Street West
Toronto, Ontario M5S 1V6
(416) 923-6641 ext. 217

The microfiche will come to you promptly in the mail.

Ordering Photocopies

Photocopies of journal articles may be ordered at a price of 10¢ per page from ERIC.

Ordering Paper Copies of Documents

Paper copies, sometimes called hard copies, are distinct from ordinary photocopies in that they're made from microfiche originals. This service takes more time and costs more than ordering microfiche from ERIC. It's offered by EDRS in the United States. Their address is:

ERIC Document Reproduction Service
P.O. Box 190
Arlington, Virginia 22210
(703) 841-1212

The cost must be pre-paid in American funds.

It's In Your Hands

The material comes to you in the form you requested. ERIC and ERIC have done their part in obtaining the educational information you asked for. It's now in your hands.

Complaint Department

ERIC (that's Educational Information Systems for Ontario) can be invaluable things for you. It can obtain for you valuable and hard to obtain information quickly and at impressive speeds. It cannot however, answer all your educational questions. But then you didn't really expect it would. Vague questions inevitably get vague answers. If your question isn't the sort ERIC can answer, you'll be told so. There may be other ways of answering your question and the people at ERIC are committed to helping you.

If you have a complaint, don't grumble about it to yourself, get in touch with the Search Analyst about it. The back stage there.

ERIC Search Analyst
OISE Library, Room 2.218
252 Bloor Street West
Toronto, Ontario M5S 1V6
(416) 923-6641 ext. 217

STEPS IN CONDUCTING A SEARCH

1. WRITE OUT YOUR QUESTION.
2. GET HOLD OF A THESAURUS OF ERIC DESCRIPTORS, IF POSSIBLE.
3. CHOOSE DESCRIPTORS AND KEY WORDS.
4. SEND IN YOUR SEARCH REQUEST TO THE ERIC SEARCH SERVICE.
5. RECEIVE PRINTOUT WITH REFERENCES AND ABSTRACTS.
6. ORDER THE ARTICLES AND DOCUMENTS YOU WANT.
7. MAKE USE OF THE INFORMATION. GOOD LUCK!

A list of explanations of abstract, arcane, dialectal and technical terms known as a

GLOSSARY

Abstract
- an informative, short summary of the subject and contents of a reference.

Accessories
- the key words and phrases that are the computer thinking. They include subject terms, text terms, authors and descriptors.

Boolean logic
- two ideas may occur individually (OR), or it can occur together (AND), or must not occur together (NOT). Organizing relationships between data in this fashion is Boolean logic. Computerized searching of ERIC operates in this way.

Broader Terms (BT)
- part of the notes of each descriptor in the Thesaurus referring to a subject, reading that's more general than one of a heading. For example, reading is a broader term than remedial reading.

CIJE
- Initials for Current Index to Journals in Education, an index to current educational journal articles, published monthly by ERIC.

Citations
- the references that may be retrieved on a particular topic.

Clearinghouse
- centres where current educational matter of a subject, and abstracted or in way to the ERIC Mini-Base. Additions are published monthly in CIJE and RIE. 19 ans. - Most Clearinghouses, one example is the ERIC Clearinghouse on Early Childhood Education.

Clues
- you, as part of ERIC services.

Data Base
- all the information stored in a computer. It's also called a data bank and can refer to either numerical or bibliographical data.

Descriptor
- a term that upon being sent to the computer will elicit all the references to it. The approved terms for ERIC's data base are found in the Thesaurus of ERIC Descriptors.

ED number
- the accession number for ERIC documents. It identifies a document to the computer. These numbers appear in the Resources in Education index and on the computer printout.

EDRS
- the ERIC Document Reproduction Service where paper copies of materials on microfiches can be ordered.

EIC
- resource persons in various parts of Ontario acting as Educational Information Consultants. They have special knowledge of how EISO works.

EISO
- the Educational Information System for Ontario, providing access to computerized information about all aspects of education.

EJ number
- the accession number identifying a journal reference in the computer. It appears in the *Current Index to Journals in Education* and on the computer printout.

ERIC
- the Educational Resources Information Center in the USA. It produces the indexes known as RIE and CIJE as well as the magnetic tapes that make up the ERIC data base.

Hard copy
- also known as paper copies. They are made from microfiche originals.

Hits
- the number of useful references retrieved by the computer search.

Identifiers
- subject terms, proper nouns, including personal, geographical or test names used like descriptors, but not yet on the approved list in the *Thesaurus of ERIC Descriptors*.

Microfiche
- celluloid cards on which up to 96 pages of ordinary type can be miniaturized. A microfiche reader is required to make use of them.

Microfiche reader
- a machine that enlarges a microfiche and projects it on a ground glass screen for easy reading.

Misses
- the number of potentially useful references in the computer not retrieved.

Narrower Term (NT)
- part of the notes for each descriptor found in the Thesaurus referring to a subject heading that's more specific than another heading. For example, *remedial reading* is a narrower term than *reading*.

Off-line
- the printing of references retrieved by a search at the location of the computer rather than on the Search Analyst's terminal.

OISE
- The Ontario Institute for Studies in Education in Toronto, Ontario, where ERIC is located.

On-line
- the direct communication between the Search Analyst's terminal and the main computer.

Printout
- the computer's reply. It's a list or bibliography of references with details about each title.

Reference
- a unit of information on any particular topic. Also called a citation.

RIE
- *Resources in Education*, an index published monthly by ERIC on current educational documents and reports.

Related Term (RT)
- part of the notes for each descriptor found in the Thesaurus indicating one term is similar to another, though neither broader nor narrower.

Relevance
- the appropriateness of a computer reference compared to what you requested.

Rotated Descriptor Display
- a section in the *Thesaurus of ERIC Descriptors* in which each descriptor is listed in alphabetical order according to each of the words in the term. For example, *remedial reading* would appear under both *remedial* and *reading*.

Scope notes
- explanations of the way ambiguous terms are used in ERIC.

Search
- the process of requesting information from the computer.

Search Analyst
- the person who's experienced in using the computer search system, answering questions about education, and obtaining for you the information you want.

Terminal
- a specialized 'typewriter' that uses the telephone to link the search analyst with the computer.

Thesaurus of ERIC Descriptors
- a special dictionary of words and terms, specially compiled to be used with ERIC's data base.

Used For (UF)
- the Thesaurus abbreviation for synonymns indicating what term is used for indexing materials on a given topic.